

IN THE CLAIMS:

None of the claims have been amended herein. All of the pending claims 1 through 7 are presented below. This listing of claims will replace all prior versions and listings of claims in the application. Please enter these claims as amended.

Listing of Claims:

1. (Previously presented) A method using a test fixture having a first pattern of contacts for burning-in and testing ball grid array semiconductor packages having a second pattern of contacts comprising:
providing a burn-in and test fixture having a pattern of contacts having a first predetermined pattern corresponding to a second pattern of contacts of an unrelated semiconductor die;
providing a plurality of ball grid array semiconductor packages connected to a substrate, each semiconductor package including:
a portion of the substrate having a first surface and a second surface opposite the first surface and having an aperture through the portion of the substrate in communication with the first and second surfaces thereof;
attaching a semiconductor device having an active surface with a plurality of bond pads thereon to one of the first and second surfaces of the substrate with the plurality of bond pads exposed within the aperture of the substrate;
forming a plurality of ball grid array connective elements on one of the first surface and the second surface of the portion of the substrate;
forming a plurality of test pads on a severable portion of the portion of the substrate, the plurality of test pads arranged in a first preselected pattern, the first preselected pattern of test pads having a predetermined pattern corresponding to the second pattern of contacts of the another unrelated semiconductor device for eliminating modification of the burn-in and test fixture for mating with a ball grid array semiconductor package;

forming a plurality of substrate bond pads on one of the first surface and the second surface of the portion of the substrate;

connecting selected bond pads of the plurality of bond pads on the active surface of the semiconductor device with selected substrate bond pads of the plurality of substrate bond pads using a plurality of bond wires extending therebetween;

providing a first plurality of circuit traces selectively connecting the selected substrate bond pads of the plurality of substrate bond pads with selected connective elements of the plurality of ball grid array connective elements;

providing a second plurality of circuit traces selectively connecting the selected connective elements of the plurality of ball grid array connective elements with selected test pads of the plurality of test pads;

placing the at least one ball grid array semiconductor package in a burn-in and test apparatus having a plurality of test probes;

contacting selected test probes of the plurality of test probes with the selected test pads of the plurality of test pads;

burning-in and testing the at least one ball grid array semiconductor package by applying and routing electrical energy to the selected test pads of the plurality of test pads by way of the selected test probes of the plurality of test probes; and

severing the portion of the substrate to form at least one ball grid array semiconductor package.

2. (Previously presented) The method for burning-in and testing ball grid array semiconductor packages of claim 1, wherein forming the plurality of test pads further comprises arranging the plurality of test pads in a thin small outline package pin-out pattern.

3. (Previously presented) The method for burning-in and testing ball grid array semiconductor packages of claim 1, wherein providing the first and second pluralities of circuit traces further comprises performing at least one of the first and second pluralities of circuit traces on a tape and adhering at least a portion of the tape to at least a portion of the substrate.

4. (Previously presented) The method for burning-in and testing ball grid array semiconductor packages of claim 1, further comprising severing at least one of the plurality of test pads from the substrate after burning-in and testing.

5. (Previously presented) The method for burning-in and testing ball grid array semiconductor packages of claim 1, further comprising conducting the burning-in and testing of the at least one ball grid array semiconductor package in test tooling comprising a ball grid array semiconductor package holder and a probe head containing the plurality of test probes arranged in a pattern complementary to the first preselected pattern of the plurality of test pads.

6. (Previously presented) The method for burning-in and testing ball grid array semiconductor packages of claim 1, further comprising attaching the semiconductor device and the plurality of ball grid array connective elements to the same surface of the first surface and the second surface of the substrate.

7. (Previously presented) The method for burning-in and testing ball grid array semiconductor packages of claim 6, further comprising attaching the plurality of substrate bond pads on one of the first surface and the second surface of the substrate opposite to which the semiconductor device and the plurality of connective elements are attached.